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| 10/642,233      | 08/18/2003  | June-Seo Lee         | P56843              | 2987             |

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EXAMINER

LY, NGHI H

ART UNIT PAPER NUMBER

2617

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/642,233

Applicant(s)

LEE, JUNE-SEO

Examiner

Nghi H. Ly

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>06/01/06</u> | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimbori (US 6,591,101) in view of Oshigiri (US 2001/0014584A1) and further in view of Watson et al (US 6,212,382).

Regarding claims 1, 4, 6 and 9, Shimbori teaches a wireless network system capable of tracking a location of a mobile station (see Abstract) comprising: a visitor location register in which location information relating to a wireless network location of a mobile station is stored (see column 2, lines 17-27) and confirming a location of the mobile station and updating the location information stored in said visitor location register when the mobile station keeps up an idle state during a certain period (see column 10, lines 23-42 and column 16, line 63 to column 17, line 10).

Shimbori does not specifically disclose a base station controller storing location information relating to a wireless network location of a mobile station in said visitor location register when the mobile station registers its location with said wireless network.

Oshigiri teaches a base station controller storing location information relating to a wireless network location of a mobile station in said visitor location register when the

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mobile station registers its location with said wireless network (see [0027] and claim 15, step c).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Oshigiri into the system of Shimbori in order to provide a network system which is capable of making it possible to use most of radio system units without modification (see Oshigiri, [0017]).

The combination of Shimbori and Oshigiri does not specifically disclose confirming a location of the mobile station by dummy paging.

Watson teaches confirming a location of the mobile station by dummy paging (see column 2, lines 45-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Watson into the system of Shimbori and Oshigiri in order to provide a method for handover in a multicellular environment including an overlay and underlay of macrocells and microcells (see Watson, column 1, lines 5-10).

3. Claims 2, 3, 8, 12, 13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimbori (US 6,591,101) in view of Oshigiri (US 2001/0014584A1) and further in view of Watson et al (US 6,212,382), Stephens (US 6,256,503) and Fitch et al (US 6,424,840).

Regarding claims 2, 3, 8 and 12, Shimbori teaches at least one repeater dispersedly installed in sector zones of a private base transceiver station (see Abstract),

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a visitor location register in which location information relating to a private wireless network location of a mobile station is stored (see column 2, lines 17-27) and confirming a location of the mobile station and updating the location information stored in said visitor location register when the mobile station keeps up an idle state during a certain period (see column 10, lines 23-42 and column 16, line 63 to column 17, line 10).

Shimbori does not specifically disclose a private base station controller storing location information relating to a private wireless network location of a mobile station in said visitor location register when the mobile station registers its location with said private wireless network.

Oshigiri teaches a private base station controller storing location information relating to a private wireless network location of a mobile station in said visitor location register when the mobile station registers its location with said private wireless network (see Oshigiri, [0027] and claim 15, step c).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Oshigiri into the system of Shimbori in order to provide a network system which is capable of making it possible to use most of radio system units without modification (see Oshigiri, [0017]).

Shimbori and Oshigiri does not specifically disclose confirming a location of the mobile station by dummy paging.

Watson teaches confirming a location of the mobile station by dummy paging (see column 2, lines 45-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Watson into the system of Shimbori and Oshigiri in order to provide a method for handover in a multicellular environment including an overlay and underlay of macrocells and microcells (see Watson, column 1, lines 5-10).

The combination of Shimbori, Oshigiri and Watson does not specifically disclose a server inquiring about the location information of the mobile station stored in said visitor location register.

Stephens teaches a server inquiring about the location information of the mobile station stored in said visitor location register (see column 13, lines 40-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Stephens into the system of Shimbori, Oshigiri and Watson in order to provide an improved wireless communications network that includes restricted user terminal areas based on the location of an originator (see Stephens, column 2, lines 52-55).

The combination of Shimbori, Oshigiri, Watson and Stephens does not specifically disclose the location information including at least one of a private base transceiver station number, a sector number and a repeater number.

Fitch teaches the location information includes at least one of a base transceiver station number, a sector number and a repeater number (see column 7, lines 8-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Fitch into the system of

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Shimbori, Oshigiri, Watson and Stephens in order to express the user's location in term of network topology (see Fitch, column 7, lines 10-12).

Regarding claim 13, the combination of Shimbori, Oshigiri, Watson, Stephens and Fitch further teaches transmitting the location information received from said private base station controller to the client (see Oshigiri, [0027]), and receiving the location information from said server and providing a user with a location and state of the specific mobile station according to the received location information (see Oshigiri, [0027]).

Regarding claims 15 and 17, the combination of Shimbori, Oshigiri, Watson, Stephens and Fitch does not specifically disclose the server being connected to said base station controller through a local area network and the plurality of repeaters being connected to the private base transceiver station, with the private base transceiver station being connected to said private base station controller. However, the examiner takes Official notice that such feature as recited is very well known in the art.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention was made to modify the above teaching of the combination of Shimbori, Oshigiri, Watson, Stephens and Fitch for providing a method as claimed, for the server being connected to said base station controller through a local area network and the plurality of repeaters being connected to the private base transceiver station, with the private base transceiver station being connected to said private base station controller.

Regarding claim 16, the combination of Shimbori, Oshigiri, Watson, Stephens and Fitch does not specifically disclose a client being informed of the location information from said server, with said client being connected to said server, said server not accommodating the communication link between mobile stations. However, the examiner takes Official notice that such feature as recited is very well known in the art.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention was made to modify the above teaching of the combination of Shimbori, Oshigiri, Watson, Stephens and Fitch for providing a method as claimed, for the client being connected to said server.

4. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimbori (US 6,591,101) in view of Oshigiri (US 2001/0014584A1) and further in view of Watson et al (US 6,212,382) and Fitch et al (US 6,424,840).

Regarding claims 5 and 7, the combination of Shimbori, Oshigiri and Watson teaches claims 4 and 6. The combination of Shimbori, Oshigiri and Watson not specifically disclose the location information includes at least one of a base transceiver station number, a sector number and a repeater number.

Fitch teaches the location information includes at least one of a base transceiver station number, a sector number and a repeater number (see column 7, lines 8-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Fitch into the system of



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Shimbori, Oshigiri and Watson in order to express the user's location in term of network topology (see Fitch, column 7, lines 10-12).

5. Claims 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimbori (US 6,591,101) in view of Garceran et al (US 6,522,888) and further in view of Fitch et al (US 6,424,840) and Giniger et al (US 6,199,045) and Watson et al (US 6,212,382).

Regarding claim 10, Shimbori teaches a method for tracking a location of a subscriber (see Abstract), comprising: storing location information when a mobile station executes location registration (see column 2, lines 17-27) and confirming a location and state of a mobile station and updating its location information of said visitor location register when the relevant mobile station keeps up an idle state during a certain period, and then transmitting the updated location information to said server (see column 10, lines 23-42 and column 16, line 63 to column 17, line 10). Shimbori does not specifically disclose periodically transmitting a message requesting an inquiry about a mobile station subscriber's state to a server.

Garceran teaches periodically transmitting a message requesting an inquiry about a mobile station subscriber's state to a server (see column 3, lines 34-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Garceran into the system of Shimbori in order to determine coverage in a wireless communication system (see Garceran, Abstract).

The combination of Shimbori and Garceran does not specifically disclose the location information including a private base transceiver station number, a sector number and a repeater number with respect to the relevant mobile station.

Fitch teaches the location information including a private base transceiver station number, a sector number and a repeater number with respect to the relevant mobile station (see column 7, lines 8-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Fitch into the system of Shimbori and Garceran in order to express the user's location in term of network topology (see Fitch, column 7, lines 10-12).

The combination of Shimbori, Garceran and Fitch does not specifically disclose requesting a private base station controller to inquire out location information stored in a visitor location register in response to the inquiry message, transmitting location information stored in a visitor location register to a server in response to the server's request.

Giniger teaches requesting a private base station controller to inquire out location information stored in a visitor location register in response to the inquiry message, transmitting location information stored in a visitor location register to a server in response to the server's request (see column 11, lines 59-61, column 12, lines 32-38, the teaching of Giniger inherently teaches "a visitor location register" since the mobile unit 103 can roam from one network to another network and each network inherently includes "a visitor location register") and transmitting the location information received

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from said private base station controller to the client and receiving the location information from said server and providing a user with a location and state of a mobile station according to the received location information (see Astract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Giniger into the system of Shimbori, Garceran and Fitch in order to provide information to the users, which information is based upon the user's position and tailored to the user interests (see Giniger, column 1, lines 6-10).

The combination of Shimbori, Garceran, Fitch and Giniger does not specifically disclose confirming a location of the mobile station by dummy paging.

Watson teaches confirming a location of the mobile station by dummy paging (see column 2, lines 45-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Watson into the system of Shimbori, Garceran, Fitch and Giniger in order to provide a method for handover in a multicellular environment including an overlay and underlay of marcocells and microcells (see Watson, column 1, lines 5-10).

Regarding claim 14, the combination of Shimbori, Garceran, Fitch and Giniger further teaches transmitting location information stored in said visitor location register directly to the server, remote from the visitor location register, in response to the server's request (see Giniger, column 11, lines 59-61, column 12, lines 32-38, the teaching of Giniger inherently teaches "a visitor location register" since the mobile unit

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103 can roam from one network to another network and each network inherently includes "a visitor location register").

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-10 and 12-17 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (571) 272-7911. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nghi H. Ly

A handwritten signature in black ink, appearing to be 'NHL' or similar, written below the printed name.